

ABSTRACT OF THE DISCLOSURE

A method for electromagnetically shielding circuits which combine to form an integrated circuit device provides isolated silicon islands surrounded laterally and subjacently by conductive material. The isolated silicon islands may be covered individually or as a group by a conductive cover. The integrated circuit may include at least one silicon island including an analog circuit and at least one silicon island including a digital circuit, the analog and digital circuits electromagnetically shielded from one another. The method for forming the structure includes providing a first semiconductor substrate and hydrophilically bonding a substructure to the first semiconductor substrate. The substructure includes the isolated silicon islands surrounded by the conductive material. The substructure may be formed on a second semiconductor substrate by implanting an impurity region into an upper portion of the second semiconductor substrate. After bonding, the substructure may be separated from the remainder of the second substrate by propagating a crack along the boundary of the impurity region which separates the substructure from the remainder of the second semiconductor substrate. The method further includes forming the conductive cover over the isolated silicon island or islands by forming insulating layers over the silicon islands then forming a conductive cover layer and conductive sidewalls to surround the silicon island or islands being enclosed.

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